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Solutions Through Science

Reducing Damage Caused by Vultures

Problem

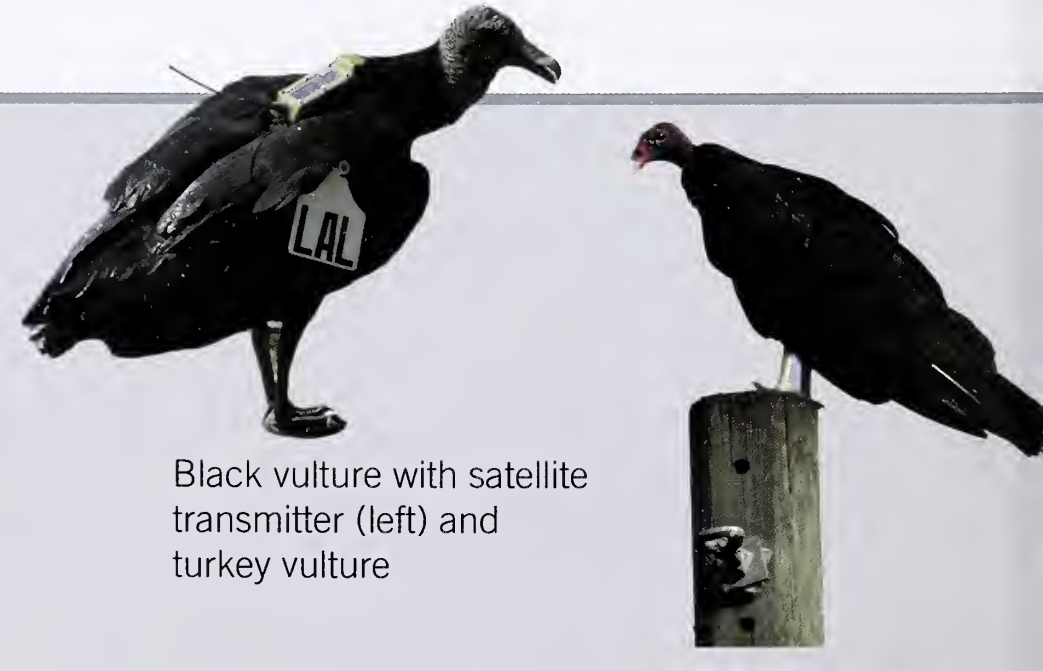
Vultures play an important role in ecosystems by cleaning up animal carcasses, but vultures also cause problems in both rural and urban settings. In recent years, vulture populations have increased as these adaptable birds have adjusted to higher levels of human activity. As a result, the birds are coming into ever more conflict with people.

Vultures often damage residential and business property. Their droppings can kill trees and create unsanitary and unsafe working conditions at power plants, refineries, and communication towers. Their aggressiveness unsettles park users and homeowners. Vultures harass and kill livestock. In flight, they can be a danger to aircraft.

As complaints multiply, pressure grows on wildlife biologists to develop safe, effective ways to manage vulture populations that will both maintain healthy numbers of birds and reduce conflicts and damage. The National Wildlife Research Center (NWRC)—the research arm of the Federal Government's Wildlife Services (WS) program—is hard at work on vulture issues. This leaflet describes how NWRC researchers are developing science-based approaches to address human-vulture conflicts.

Identifying Vultures

Two species of vultures live in the United States. Turkey vultures *(Cathartes aura)* are found almost nationwide. Black vultures *(Coragyps atratus)* are



Black vulture with satellite transmitter (left) and turkey vulture

found throughout the southeastern United States, although their range is expanding northward.

Turkey vultures are almost exclusively scavengers, relying upon their very sensitive sense of smell and good eyesight to locate food. Black vultures, on the other hand, rely principally on visual cues to find scavengable food and also attack and kill live animals.

Adult turkey vultures have blackish-brown feathers and red heads. Black vultures have black feathers and gray heads and have a distinctive white patch near the ends of their outstretched wings.

Science-Based Solutions

To help resolve vulture-related problems, NWRC scientists are conducting research with captive vultures at the Gainesville, FL, field station, as well as at field sites, to better understand the ecology and behavior of these birds and their responses to management practices. In particular, scientists are investigating methods for dispersing vultures from problem roosts and preventing property damage. Scientists are also using satellite telemetry to learn more about vulture movements and the potential for vulture-aircraft collisions.

Dispersing Roosts

Vultures roost in trees and on manmade structures such as buildings and towers. Many problems associated with vultures can be successfully resolved by dispersing the birds from their roosts.

Research conducted by NWRC scientists has demonstrated that proper installation of a vulture effigy almost always causes abandonment of the roost within 3 to 5 days. The effigy is either a taxidermic mount of a dead vulture or a commercially available artificial likeness.

Taxidermic and artificial vulture effigies are used to disperse vultures from their roosts.

It is sometimes necessary to use pyrotechnics or handheld lasers in addition to the effigy to disrupt vulture roosts. The bright beams of the lasers irritate the birds and cause them to move to other locations. Application of lasers can cause vultures to leave a roost for a night. But although this technique is an effective scare tactic, its use alone will not result in permanent abandonment of the roost.

Preventing Property and Livestock Damage

When vultures loaf on houses and other structures, they damage property by pecking, tearing, and defecating. To help prevent damage, NWRC scientists tested the effectiveness of several commercially available perching deterrents. Four of these—an electrified track; sharp, dense metal spikes; a cylindrical rolling perch; and a motion-activated sprinkler—proved very effective in preventing vultures from perching on roofs in test pens. Installation of any one of these devices, particularly on the ridgeline of a roof, should alleviate most problems a homeowner might experience with nuisance vultures.

Predation by black vultures on newborn livestock can be a serious problem. Among Florida livestock producers, larger farms reported more black vulture depredation problems than smaller operations. Constant vigilance, sound husbandry practices, and persistent harassment are the most effective means to protect livestock from black vultures.

Reducing Vulture-Aircraft Collisions

Because of their large body size and soaring behavior, vultures can pose a serious risk to aircraft. NWRC scientists use satellite transmitters to monitor vulture movements and habitat use. Results show that black vultures take to the air later in the day, fly at higher altitudes, and are aloft about half as long as turkey vultures. Understanding the flight behavior and activity patterns of vultures aids airport biologists in their work to keep the skies safe for aircraft. For instance, military training schedules and flight patterns could be modified to avoid times and places where birds are most active.

NWRC scientists continue to investigate vulture impacts to livestock.

NWRC scientists are investigating nonlethal methods for preventing vulture damage to houses and other structures.

NWRC headquarters in Fort Collins, CO

About Wildlife Services' National Wildlife Research Center

As part of the WS program of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, NWRC is a world leader in providing science-based solutions to the complex issues of wildlife damage management as related to agriculture, human health and safety, invasive species, and threatened and endangered species. NWRC scientists strive to find solutions that are biologically sound, environmentally safe, and socially responsible.

NWRC employs more than 160 scientists and support staff at its headquarters in Fort Collins, CO, and at field stations throughout the United States. NWRC's scientists have expertise in a wide range of disciplines, including animal behavior, wildlife biology, wildlife sensory biology, chemistry, immunology, statistics, population modeling, genetics, toxicology, and veterinary medicine.

"Solutions to problems depend upon knowledge, which only research can provide."

~ Edwin R. Kalmbach, first Director for the predecessor of the NWRC (1940–54)

More Information

In addition to developing and testing new methods for dispersing problem vultures, NWRC scientists continue to investigate vulture biology. Recently, NWRC, U.S. Geological Survey, and U.S. Fish and Wildlife Service scientists developed a novel procedure for estimating the size of vulture populations. This procedure will yield important insights as biologists evaluate regional management options. To learn more about NWRC's vulture research, please visit our Web site at www.aphis.usda.gov/wildlife_damage/nwrc/.

WS Office Phone Numbers

- NWRC Gainesville, FL, Field Station: (352) 375-2229
- NWRC Headquarters: (970) 266-6000
- Eastern Regional Office: (919) 855-7200
- Western Regional Office: (970) 494-7443
- Operational Support Staff: (301) 734-7921

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